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ABSTRACT

A music teacher used the Minnesota Educational Computing Corporation (MECC) study guide to implement a 10-week practicum intervention designed to increase sixth graders' retention of musical terminology. A total of 12 beginning band students used a computer-aided instruction program to review questions drawn from workbook materials they had previously studied. Students received reinforcement and feedback for the correct answer, the number of questions tried, the number correctly answered, and the number correctly answered on the first try. After receiving reinforcement and feedback, students either repeated the question set or moved on to another. Progress depended on whether students attained a mastery level of 90 percent. Qestions in the computerized review were printed out and used in weekly quizzes. Practicum evaluation data indicated that the intervention was successful. As a result of the computer-aided review program, students' standardized music theory test scores and weekly quiz scores improved, and their attitudes toward using the computer laboratory to learn musical terminology were largely positive. Appendices provide pre- and posttests, weekly quizzes, a student survey, test results, a teacher survey, and a software evaluation. (RH)

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USING MECC STUDY GUIDE TO INCREASE RETENTION OF MUSICAL TERMINOLOGY IN THE BEGINNING MUSIC STUDENT

by

JAMES L. NORDGREN

SO 021 883

A Practicum Report

submitted to the faculty of the Center for the Advancement of Education of Nova University in partial fulfillment of the requirements for the degree of Master of Science.

The Abstract of this report may be placed in a national database system for reference.

August/1990

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Signed:_____

ABSTRACT

Using MECC Study Guide to increase retention of musical terminology in the beginning music student.

Nordgren, James L., 1990: Practicum Report, Nova University The Center for the Advancement of Education.
Descriptors: Computer Oriented Programs/Computer Aided Learning/Database/Evaluation Methods/Mastery Exams/Testing scores/Remedial Work/Musical Terms/Musical Symbols/Computer Music/Music Theory/Computer Aided Instruction

Using the MECC Study Guide, a database of questions and answers was constructed following the Master Theory I Workbook. The target group has completed the Master Theory I Workbook in longhand. The target group used the MECC Study Guide database in an effort to increase their retention of musical terminology. A pre and post-test were used along with weekly quizzes to measure results of the computer aided instruction. The results indicate, that with the computer aided learning program, levels of retention were increased. Students scored significantly higher on the post-test exam. Students within the target group demonstrated positive responses toward the use of the computer for learning musical terms. Appendices include pre/post-test, weekly quizzes, student survey, test results, teacher survey.

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CHAPTER I

Purpose

Background

The target school is in a large metropolitan school district located in the Southwestern United States. The district is comprised of 16 senior high schools, 19 junior high schools, 8 sixth grade centers, 86 elementary schools, and 5 special schools. Total enrollment for the district is 111,482.

The target school is a sixth grade center. It is located in an older section of the city and is one of the first schools built in the district. The school services the local neighborhood students which includes 84 kindergarten students. The majority of the 442 sixth grade students ride the bus to school. The socioeconomic levels range from very low to upper middle class groups.

The faculty and staff of the sixth grade center are comprised of a principal, secretary, counselor, part-time psychologist, part-time nurse, seventeen classified employees, three full time kindergarten teachers, one half day kindergarten teacher, eight core teachers, three special education teachers, and fourteen specialists teaching academically talented, art, core enrichment, library, math, music, physical education, remedial reading, and science.

The author is a graduate of the University of Arizona and has taught instrumental music for sixteen years. The last six years have been in the target school.

The classroom is a self-contained portable building. There are five beginning band classes. Students are grouped according to specific instruments. Classes are fifty minutes long and meet every day.

Due to lack of facilities and the location of the school, after school activities are nonexistent. The combined instrumental classes perform twice a year at a junior high school.

Identification of the Problem

The beginning music student must learn a new language. Musical terms from many languages such as French, German, Spanish and Latin are utilized in this new language. Along with musical terms the student is required to learn abstract symbols and signs that indicate pitch and duration of sounds. The beginning music student is anxious to learn how to produce sound on his instrument. Consequently, many of the terms and terminology which are necessary for a well rounded music student are covered too briefly. The use of written material such as workbooks and study sheets help to some extent, but when given an oral or written test students do not retain the desired information.

The Beginning Band Procedural Guide for the author's school district (Appendix A:65) states that the student will be able to:

> Identify and interpret basic music terms and symbols including crescendo, decrescendo, accelerando, ritard, fermata, slur, breath markings, and repeat signs.

It also states that the student will:

> Identify and interpret the dynamic markings such as pp,p, mp, f, ff, sfz, mf and recognize and execute staccato, legato, accent, marcato, and caesura.

The author has searched for new ways to present the theory portion or terminology to the beginning music student. This includes a workbook (Master Theory I) which has been used for the last sixteen years. The workbook follows the guidelines of the district's Beginning Band Procedural Guide. The workbook contains a test (Appendix B:70) that the student takes upon completion of the workbook. Approximately 75% score a grade of C or above. This percentage is below the district performance objective, which is 100% will score a grade of C or above.

A survey was administered to music teachers within the district (Appendix C:75). It was developed to question their methods and application for effective learning of musical terminology. It produced the following results (Appendix K:128). The participants that returned surveys answered yes to the following questions:

> Do you find yourself skipping over terms and terminology just to get the student started?
>
> Do you find it difficult to reinforce the terms and terminology presented in your classroom?
>
> Do you think there is a problem with the retention and reinforcement of musical terminology in the beginning music student?

Students get frustrated trying to learn the technical terms and terminology introduced in the beginning music class. The pressure of performance limits the time spent on terminology. A music instructor is expected to have students perform in concerts. Therefore, a majority of class time is spent on perfecting sound and the overall product. Consequently, much of what a beginning music student learns is accomplished by rote memorization.

The author concluded that a problem existed in teaching terminology to promote retention with the beginning music student. The objective was that 100% of the class should be scoring a grade of C or above upon completion of the Master Theory I Workbook. The 100% score would also satisfy district requirements in the Beginning Band Procedural Guide (Appendix

A:65). A problem also existed in allocating class time for reinforcement of the written Master Theory I Workbook.

The target school has a computer lab that was used to generate new approaches to learning musical terms. The use of the lab also solved the problem of allocating class time for review of the Master Theory I Workbook.

Outcome Objectives

1. Over a period of ten weeks the author implemented a computer aided learning program to a target group of twelve sixth grade beginning band students. The computer aided learning program or database followed the district's Beginning Band Procedural Guide and the Master Theory I Workbook. The target group was exposed to terms and terminology used by the beginning music student. The objective of the target group was 100% would score a grade of "C" or above on the standardized post-test used with the Master Theory I Workbook.

2. Over a period of eight weeks the author administered written quizzes to the target group.

These quizzes reinforced the information presented by the computer aided program. The objective was for the target group to score at the seventieth percentile or above on the weekly written quizzes.

3. During the ten week period, student motivation increased. The extent of student motivation was determined by a survey given to the target group at the end of the ten week period. The objective was for 80% of the target group to indicate that they would continue to use the computer lab to learn musical terminology.

CHAPTER II

Research and Solution Strategy

The areas of research reviewed for this proposal are reading skills, study guides, vocabulary instruction, quizzes and exams, CAI (computer aided instruction), and computers in music education. Computer searches, software reviews and surveys were used to gather information. The author gathered information that would aid in the formulation of a computer guided instruction program.

"Reading and Music are related" (Morgan, 1989:458). Michalski (1982:266) states:

> Band programs have many functions. However, the primary purpose of any band program is to assist the participating students in acquiring musical knowledge, developing technical skills, and gaining maturity as student musicians.

Frager/Thompson (1983:202) says:

> Reading is fundamental to the study of music. Most basic music programs not only emphasize the reading of musical notation,

> technical directions, and the words to songs, but also the reading of background information concerning musical forms and styles.

Frager/Thompson (1983:202) suggests that these requirements provide many "Opportunities for using reading strategies to enhance a student's learning of music and to improve his or her reading ability." They also suggest that reading to learn has been minimal because of the emphasize put on the performance areas. Tanner (1983:41) states:

> The music teacher can adapt a broader base of ideas about teaching reading to suit the instructional needs of a performance oriented class.

Frager/Thompson (1983:203-205) list five strategies to help promote a better understanding "of music while simultaneously fostering reading improvement." They are:

1) Anticipation Guides
2) Study Guides
3) Planned Inferential Reading Lesson (PIRL)
4) Recreational Reading
5) Vocabulary Instruction

Anticipation Guides (1) are used to elicit responses based on students prior knowledge and past

experience. This helps stimulate their curiosity and motivation to learn. Study Guides (2) are written by the teacher to enhance and reinforce textbook material. These guides are compiled of questions pertaining to the textbook's major concepts. Their use is based on the assumption that students learn more when guides parallel and reinforce the text. Study Guides can be used with any material in the music classroom, from music history texts to musical scores. In PIRL (3) the teacher first writes several true statements about a selection from a textbook. The student must read the selection and then tell if each statement is implied or stated. In Recreational Reading (4) students read from a list of periodicals, books, etc. recommended by the teacher. Vocabulary Instruction (5) increases a student's knowledge of music's technical vocabulary. It also affects their musical performance.

Evaluating and grading the beginning instrumental music student is a challenge. Most classroom time is spent on motor skills and terminology is often neglected. Both are equally

important as they affect the overall performance standards and evaluation. Haag (1988:38) states that:

> Grades based strictly on performance standards are unfair and discouraging to those who have yet to develop fine motor skills.

Haag (1988:40) lists five activities that lead to the goals of most music classes:

1. Learning about music
   a. Knowledge of the elements of music
   b. Music fundamentals
   c. The history of music
2. Listening
3. Performing (including singing and playing)
4. Moving to music
5. Composing

Haag (1988:40-41) also lists five grading policies and procedures:

1. Attendance
2. Concert participation
3. Class participation
4. Quizzes and exams
5. Keep records

The music student is allotted points for attendance, concert participation and class participation. Weekly quizzes and exams are administered to reinforce definitions, terms, symbols, music history,

and analyze what has been covered in class. Record keeping and grades should be defined and weighted.

Kassner (1988:20) states that:

> Computers can do some things better than we can: guided home study, time-intensive drills, individually paced learning, and immediate reinforcement.

Computers can provide the music student with self-paced, individualized learning, and unlimited drills to increase musical skills. Computer lessons help the teacher reach diverse groups of students with varying levels of skill and development.

Tanner (1988:51-52) states:

> Digital performance and production are the largest enterprises in the applications of computers to music. The remaining two areas, composition and music instruction, represent smaller segments of the musical world. Their commercial value has not yet been apparent, although music instruction would seem to have potential. The market for instructional software and hardware is the schools, however, and their funds are severely limited.

A typical configuration for computer classroom software is a program disk and a data disk. The music program is contained on one disk and the

student responses are recorded on the data disk (Tanner,1988). Tanner (1988:52-53) also states:

> Most music programs teach fundamental music skills: learning the basics of notation, remembering melodies, learning elementary theory, discriminating melodic intervals and simple chords, and taking melodic and harmonic dictation....computers can do all the tasks of simple teaching machines; furthermore, they can assess student weaknesses and strengths as the instructional program progresses, then branch the learner to the appropriate learning and drill sequences.

The majority of music programs are of the basic skill building type. These programs cover the basic concepts of theory, music notation, harmonic and melodic dictation.

Rumery (January, 1985:22) indicates there are three main uses for computers in music education:

> The first is as a teaching machine that can carry on a limited dialogue with the student. A degree of personality can be written into the program to humanize the machine and make it more appealing to the students....Second, the computer can be used as a music synthesizer. Students can define, combine, and record their own original sound....Third, the microcomputer is a management tool. It can store student records, instrument and uniform inventories, and music library information.

Rumery (1985) says many schools have begun to develop CAI (Computer Assisted Learning) programs. These programs cover "music fundamentals, theory, history, and ear training." The use of a computer language called PILOT, enables the teacher to write computer lessons.

Placek (1985:50) says:

> ....in addition to providing drill and practice with quick grade/score feedback, CAI could provide suggestions tailored to specific student responses-especially, appropriate responses to specific wrong answer.

Music programs recommended by Placek (1985) are listed in Appendix M:132.

CAI programs are "infinitely patient, allowing the teacher to concentrate on the more creative aspects of the subject." Some CAI programs allow the teacher to input all of the subject matter, along with responses to wrong answers. Most CAI programs have a record keeping function, this enables the teacher to keep track of a students progress without a lot of paper work (Placek, 1985).

After reviewing the music software programs available, the author determined that due to the

initial start-up cost, they were out of budget for this school year. Therefore, the author decided to use a database program that was constructed from lesson plans already in use. The program is the MECC Study Guide. The author formulated a database of questions paralleling the Master Theory I Workbook which was already in classroom use. Questions were presented using matching or fill-in. A reinforcement statement was used to give additional information concerning the correct answer. A record keeping function, included in the program, was used to monitor student progress. Another program function is the capability of generating written quizzes and tests. The author also used written quizzes compiled by the MECC Study Guide to monitor student progress.

Feldstein (1988:36) states:

> More than 60 percent of public schools in the United States possess computers and computer labs. Computers are highly motivating pieces of equipment for youngsters of all ages and can be a tremendous asset in music education....One of the computer's exciting characteristics is that it immediately reinforces a student's performance....Computers also can test students. They can correlate test scores, highlight problems, and provide

> educators with materials to evaluate both the quality of their own teaching and their students' learning processes....From a motivational standpoint, children love both computers and music.

The target school has a lab with Apple IIe computers. There is a full time teacher in the lab so it was possible to send students to work individually without interrupting the entire class. Lab times were set for each student.

The target group initially worked through the Master Theory I Workbook in longhand. Upon completion of the MECC Study Guide unit, scores from the Master Theory I Workbook pre-test were compared to post-test scores.

CHAPTER III

Methodology

In preparation for implementation the author constructed, with the aid of the MECC Study Guide program, a database of questions that follow the Master Theory I Workbook. The MECC Study Guide consists of three main programs: Designer, Reviewer, and Examiner. The Designer section was used to create, edit, and store sets of questions and answers on a data diskette. The questions may be entered in several formats. They are fill-in, multiple choice, matching and true or false. The author choose to use fill-in and multiple choice. When the student answered the question incorrectly, the correct answer appeared on the screen. A reinforcement statement followed the correct answer to aid the student in remembering.

The part of the program that the student had direct contact with was the Reviewer. Students were asked to enter their name and then choose a set of questions to review. After the student worked through the set, the computer printed to the screen the number tried, the number correct, and the percent correct on the first try. A mastery level of 90% was set up through the program and printed to the same screen. When a score was lower than the mastery level, the student was instructed to repeat the set. This continued until the student reached the mastery level. A student, reaching the 90% level on a set, was allowed to move onto the next set. The third part of the program, the Examiner, enabled the author to print the sets of questions from the database as weekly written quizzes (Appendix D:79).

The target group, over a period of two nine week grading periods, had worked through the Master Theory I Workbook in longhand. The author used class lectures and oral quizzes to reinforce the material presented. The students were allowed short periods of class time to work on their lessons in Master

Theory I. Workbooks were collected on Monday, graded and returned to the students on Tuesday. Students were tested at the end of the semester using the standardized test in Master Theory I Workbook (Appendix B:70). Approximately 75% scored a grade of C or above.

During the first session of week one a pre-test was administered to the target group (Appendix B:70). The pre-test covers all of the concepts in the Master Theory I Workbook. These concepts are outlined in the weekly assignments listed below. The target group consisted of twelve beginning music students.

The results of the pre-test (Appendix H:111) were (Table 1):

Table 1

Pre-test results of the Master Theory I Workbook standardized test

Letter Grade	# of Students Per Grade	% of Students Per Grade
A	2	16.7%
B	3	25.0%
C	2	16.7%
D	1	8.3%
F	4	33.3%
C OR ABOVE	7	58.3%
D OR BELOW	5	41.7%

Students passing with a grade of "C" or above equalled 58.3%. The number of students not reaching the seventieth percentile objective was 41.7%.

It was determined during the first meeting that the target group would meet three times a week for fifty minutes. This was accomplished with permission and cooperation of the principle and physical education department. Students would be scheduled

into this special class for a ten week period. Also included in this first session was a short computer lab orientation and introduction to the MECC Study Guide lessons.

During the first week of implementation, the target group worked on the first set of questions in the MECC Study Guide program. Set one corresponds to lessons 1-4 in the Master Theory I Workbook. Lessons 1-4 cover numbering the staff lines, recognition of the treble and bass clef signs, and the names of the lines and spaces for the treble and bass clefs. A minor problem occurred when students inserted extra spaces before or after their typed answer. Although they seemed to have typed the correct answer, the computer would not except the extra spaces in the answer. The author corrected the problem with a short demonstration. The problem did not occur again. Two students achieved the mastery level of 90% on their first attempt of lesson one. The author determined that the 90% mastery level was set to low. It was reset to 100%. The objective was to answer each question correctly in a set before moving on to

the next set of questions. The author noticed that the students enthusiasm increased. Their desire to reach the 100% level was indicated by their comments and expressions. A competitiveness developed among a majority of the students. Each student would indicate verbally when they reached the 100% level. The first written quiz was administered at the end of week one. The results of the first weekly written quiz, covering lessons 1-4 in the Master Theory I Workbook, were (Table 2):

Table 2

Week #1 / Set #1 Weekly
Written Quiz Results

Letter Grade	# of Students Per Grade	% of Students Per Grade
A	8	66.7%
B	2	16.7%
C	1	8.3%
D	1	8.3%
F	0	0.0%
C OR ABOVE	11	91.7%
D OR BELOW	1	8.3%

Eleven out of twelve (91.7%) students reached the seventieth percentile objective. Results of the written quiz were entered into the Weekly Written Quiz Results chart (Appendix E:88). This chart was designed with the use of Appleworks spreadsheet and uses a straight percentage of (Table 3):

Table 3

Spreadsheet Percentages
for Appendix E & F

Percentage Range	Letter Grade
90 - 100% =	A
80 - 90% =	B
70 - 80% =	C
60 - 70% =	D
59 - =	F

Mastery percentages were printed out using the Designer portion of the MECC program and entered into the MECC Computer Percentage chart (Appendix F:97). Mastery percentages and Weekly Quizzes were also charted by individual student (Appendix I:113). This

chart was also designed with the use of Appleworks spreadsheet and uses the same percentage scale as the Written Quiz Results chart (Table 3).

In week two, the target group was assigned set number two in the MECC Study Guide. This corresponds to lessons 5-8 in the Master Theory I Workbook. Lessons 5-8 cover the concepts of stem direction, measures, bar lines, double bar lines, and time signatures. A question was entered incorrectly by the author during compilation of the data disk. The students found this error during week two. An attempt to correct each students data disk with the author's master program disk failed. The data corrected, when accessed by the students master program disk, outputted as a combination of data from the original question and the corrected one. Once a data disk has been used by a student and their scores saved, any corrections to their list of questions must be made with the use of the individual students master program disk. Program and student data disks were numbered one to twelve. Each student was instructed to use the same numbered master program

and data disk. If more corrections were needed, the numbered disks would facilitate the process. Written quiz results for week two, covering lessons 5-8 in the Master Theory I Workbook, were (Table 4):

Table 4

Week #2 / Set #2 Weekly
Written Quiz Results

Letter Grade	# of Students Per Grade	% of Students Per Grade
A	9	75.0%
B	2	16.7%
C	1	8.3%
D	0	0.0%
F	0	0.0%
C OR ABOVE	12	100.0%
D OR BELOW	0	0.0%

Outcome results were entered into their respective charts.

In week three, students were assigned set number three in the MECC Study Guide. This set corresponds to lessons 7-12 in the Master Theory I Workbook. Lessons 7-12 cover the concepts of time signatures,

note values, and rest values. Assignment for the week also included reviewing sets one and two. This gave the students the opportunity to improve on their individual computer percentage scores. Written quiz results for week three, covering lessons 9-12 in the Master Theory I Workbook, were (Table 5):

Table 5

Week #3 / Set #3 Weekly
Written Quiz Results

Letter Grade	# of Students Per Grade	% of Students Per Grade
A	8	66.7%
B	3	25.0%
C	1	8.3%
D	0	0.0%
F	0	0.0%
C OR ABOVE	12	100.0%
D OR BELOW	0	0.0%

Outcome results were entered into their respective charts.

In week four, the target group was assigned set number four in the MECC Study Guide. Set four

corresponds to lessons 13-16 in the Master Theory I Workbook. Lessons 13-16 cover the concepts of dotted whole and half notes, and leger lines and their names for treble and bass clef. Written quiz results for week four, covering lessons 13-16 in the Master Theory I Workbook, were (Table 6):

Table 6

Week #4 / Set #4 Weekly
Written Quiz Results

Letter Grade	# of Students Per Grade	% of Students Per Grade
A	7	58.3%
B	3	25.0%
C	2	16.7%
D	0	0.0%
F	0	0.0%
C OR ABOVE	12	100.0%
D OR BELOW	0	0.0%

Outcome results were entered into their respective charts.

Listed below are the results for weeks 5 through 8 which correspond to sets #5 through #8 of the MECC

Study Guide. Lessons covered in the Master Theory I Workbook were seventeen through twenty-nine. Concepts covered were repeat signs, tied notes, slurs, eighth notes, eighth rests, dotted quarter notes, flat sharp and natural signs, and accidentals. Outcome results for week #5-8 (Table 7-10) were entered into their respective charts.

Table 7

Week #5 / Set #5 Weekly
Written Quiz Results

Letter Grade	# of Students Per Grade	% of Students Per Grade
A	10	83.3%
B	1	8.3%
C	1	8.3%
D	0	0.0%
F	0	0.0%
C OR ABOVE	12	100.0%
D OR BELOW	0	0.0%

Table 8

Week #6 / Set #6 Weekly
Written Quiz Results

Letter Grade	# of Students Per Grade	% of Students Per Grade
A	8	66.7%
B	1	8.3%
C	3	25.0%
D	0	0.0%
F	0	0.0%
C OR ABOVE	12	100.0%
D OR BELOW	0	0.0%

Table 9

Week #7 / Set #7 Weekly
Written Quiz Results

Letter Grade	# of Students Per Grade	% of Students Per Grade
A	11	91.7%
B	1	8.3%
C	0	0.0%
D	0	0.0%
F	0	0.0%
C OR ABOVE	12	100.0%
D OR BELOW	0	0.0%

Table 10

Week #8 / Set #8 Weekly
Written Quiz Results

Letter Grade	# of Students Per Grade	% of Students Per Grade
A	9	75.0%
B	2	16.7%
C	0	0.0%
D	1	8.3%
F	0	0.0%
C OR ABOVE	11	91.7%
D OR BELOW	1	8.3%

Assignment for week nine was sets nine and ten in the MECC Study Guide. These are review lessons compiled of questions from the first eight sets. No written quiz was administered during week nine. The entire week was spent on computer exercises. The results of the computer percentages for week #9 were (Table 11&12):

Table 11

Week #9 / Set #9 Weekly
MECC Computer Percentages

# of Students Per Level	% of Correct Answers
9	100%
1	96%
1	93%
1	85%

Table 12

Week #9 / Set #10 Weekly
MECC Computer Percentages

# of Students Per Level	% of Correct Answers
7	100%
4	97%
1	90%

During week ten the target group took the post-test (Appendix B:70). The post-test covered all material presented in the Master Theory I Workbook. The results were (Table 13):

Table 13

Post-test Results of the Master Theory I Workbook Standardized Test

Letter Grade	# of Students Per Grade	% of Students Per Grade
A	8	66.7%
B	0	0.0%
C	2	16.7%
D	2	16.7%
F	0	0.0%
C OR ABOVE	10	83.3%
D OR BELOW	2	16.7%

Upon completion of the post-test, the student survey (Appendix J:126) was distributed. The author used an Apple IIe computer and the Appleworks program to construct all printed material, including the Master Theory I pre and post-tests and written quizzes. A duplicating machine was used for multiple copies of tests, quizzes and surveys. The author kept the counselor informed of test results and class progress.

CHAPTER IV

Results

Pre-test

The Pre-test (Appendix B:70) covered all material presented in the Master Theory I Workbook. The results (Appendix H:111) of the pre-test were (Table 14):

Table 14

Pre-test Results for Master Theory I

# of Students Per Grade	% of Students Per Grade	Letter Grade
2	17%	A
3	25%	B
2	17%	C
1	8%	D
4	33%	F

Seven students out of twelve (59%) passed the pre-test exam. Five students (41%) failed to reach the seventieth percentile average. The 59% score was below the 75% average that the author had noted in previous administration of this test.

Week #1 / Set #1 Written Exam

Set #1 corresponds to lessons 1-4 in the Master Theory I Workbook. Lessons 1-4 cover numbering the staff lines, recognition of the treble and bass clef signs, and the names of the lines and spaces for the treble and bass clefs. Results for week #1 (Appendix E:88) were (Table 15):

Table 15

Week #1 / Set #1 Weekly
Written Quiz Results

Letter Grade	# of Students Per Grade	% of Students Per Grade
A	8	67%
B	2	17%
C	1	8%
D	1	8%
F	0	0%
C OR ABOVE	11	92%
D OR BELOW	1	8%

One student (8%) failed to reach the objective, while eleven (92%) reached the seventieth percentile objective.

The MECC Study Guide has a record keeping function that records student percentages for each set. This percentage indicates the number questions answered correctly each time a set was attempted. The objective for each Week/Set was 70%. The computer percentages for week #1 (Appendix F:87) were (Table 16):

Week One MECC Computer Percentages

Table 16

Week #1 / Set #1 Weekly
MECC Computer Percentages

Student ID #	# Tried	# CORRECT	% Of Correct Answers
1	16	16	100%
2	16	11	69%
3	16	16	100%
4	16	15	94%
5	16	16	100%
6	16	16	100%
7	16	16	100%
8	16	14	88%
9	16	16	100%
10	16	13	81%
11	16	16	100%
12	16	16	100%

Eleven out of twelve students reached the seventieth percentile objective for week #1. Student number eight scored 88% on the MECC computer percentages and 62% on the written quiz. Student number two, who scored low on the MECC computer percentages (69%), scored 75% on the written exam.

Week #2 / Set #2 Written Exam

Set #2 corresponds to lessons 5-8 in the Master Theory I Workbook. Lessons 5-8 cover the concepts of stem direction, measures, bar lines, double bar lines, and time signatures. The written quiz results for week #2 (Appendix E:88) were (Table 17):

Table 17

Week #2 / Set #2 Weekly Written Quiz Results

Letter Grade	# of Students Per Grade	% of Students Per Grade
A	9	75%
B	2	17%
C	1	8%
D	0	0%
F	0	0%
C OR ABOVE	12	100%
D OR BELOW	0	0%

All students in the target group scored in the seventieth percentile or above on the written quiz for week #2.

Week #2 / Set #2 MECC Computer Percentages

Table 18

Week #2 / Set #2 Weekly
MECC Computer Percentages

Student ID #	# Tried	# CORRECT	% Of Correct Answers
1	9	9	100%
2	9	9	100%
3	9	9	100%
4	9	9	100%
5	9	9	100%
6	9	9	100%
7	9	9	100%
8	9	9	100%
9	9	7	78%
10	9	9	100%
11	9	9	100%
12	9	9	100%

All students in the target group reached the seventieth percentile objective for week #2 (Table 18). Eleven out of twelve scored 100% on the MECC computer percentages (Appendix F:97).

Week #3 / Set #3 Written Exam

Set #3 corresponds to lessons 7-12 in the Master Theory I Workbook. Lessons 7-12 cover the concepts of time signatures, note values, and rest values. Written quiz results (Appendix E:88) for week #3 were (Table 19):

Table 19

Week #3 / Set #3 Weekly Written Quiz Results

Letter Grade	# of Students Per Grade	% of Students Per Grade
A	8	67%
B	3	25%
C	1	8%
D	0	0%
F	0	0%
C OR ABOVE	12	100%
D OR BELOW	0	0%

All students achieved the seventieth percentile objective for week #3.

Week #3 / Set #3 MECC Computer Percentages

Table 20

Week #3 / Set #3 Weekly
MECC Computer Percentages

Student ID #	# Tried	# CORRECT	% Of Correct Answers
1	9	9	100%
2	9	9	100%
3	9	9	100%
4	9	9	100%
5	9	9	100%
6	9	9	100%
7	9	9	100%
8	9	9	100%
9	9	8	89%
10	9	9	100%
11	9	9	100%
12	9	9	100%

Eleven out of twelve scored 100% on the MECC computer percentages for week #3 (Table 20). Student number nine, who scored the lowest on the MECC computer percentages (89%), scored the lowest on the written quiz (75%). All students reached the seventieth percentile objective.

Week #4 / Set #4 Written Exam

Set #4 corresponds to lessons 13-16 in the Master Theory I Workbook. Lessons 13-16 cover the concepts of dotted whole and half notes, leger lines and their names for treble and bass clef. Written quiz results (Appendix E:88) for week #4 were (Table 21):

Table 21

Week #4 / Set #4 Weekly Written Quiz Results

Letter Grade	# of Students Per Grade	% of Students Per Grade
A	7	58%
B	3	25%
C	2	17%
D	0	0%
F	0	0%
C OR ABOVE	12	100%
D OR BELOW	0	0%

All students reached the seventieth percentile objective for week #4 on the written quiz.

Week #4 / Set #4 MECC Computer Percentages

Table 22

Week #4 / Set #4 Weekly
MECC Computer Percentages

Student ID #	# Tried	# CORRECT	% Of Correct Answers
1	9	9	100%
2	9	9	100%
3	9	8	89%
4	9	8	89%
5	9	9	100%
6	9	9	100%
7	9	9	100%
8	9	9	100%
9	9	7	78%
10	9	9	100%
11	9	9	100%
12	9	9	100%

Nine out of twelve scored 100% on the MECC computer percentages (Appendix F:97) for week #4 (Table 22). All students in the group reached the seventieth percentile objective for the week.

Week #5 Set #5 Written Exam

Set #5 corresponds to lessons 17-20 of the Master Theory I Workbook. Lessons 17-20 cover the concepts of repeat signs, tied notes, and slurs. Written quiz results (Appendix E:88) for week #5 were (Table 23):

Table 23

Week #5 / Set #5 Weekly Written Quiz Results

Letter Grade	# of Students Per Grade	% of Students Per Grade
A	10	83%
B	1	8%
C	1	8%
D	0	0%
F	0	0%
C OR ABOVE	12	100%
D OR BELOW	0	0%

All students reached the seventieth percentile objective for week #5. Ten out of twelve scored 100% on the written exam.

Week #5 / Set #5 MECC Computer Percentages

Table 24

Week #5 / Set #5 Weekly
MECC Computer Percentages

Student ID #	# Tried	# CORRECT	% Of Correct Answers
1	10	10	100%
2	10	9	90%
3	10	9	90%
4	10	10	100%
5	10	10	100%
6	10	10	100%
7	10	10	100%
8	10	10	100%
9	10	7	70%
10	10	10	100%
11	10	9	90%
12	10	10	100%

All students reached the seventieth percentile objective for week #5 (Table 24). Student number nine, who had the lowest computer percentage for the week (70%), had the lowest written quiz score (75%).

Week #6 / Set #6 Written Exam

Set #6 corresponds to lessons 21-24 in the Master Theory I Workbook. Lessons 21-24 cover the concepts of eighth notes, eighth rests, counting, and note duration. Written quiz results (Appendix E:88) for week #6 were (Table 25):

Table 25

Week #6 / Set #6 Weekly Written Quiz Results

Letter Grade	# of Students Per Grade	% of Students Per Grade
A	8	67%
B	1	8%
C	3	25%
D	0	0%
F	0	0%
C OR ABOVE	12	100%
D OR BELOW	0	0%

All students reached the seventieth percentile objective for week #6. Eight out of twelve scored 100% on the written quiz.

Week #6 / Set #6 MECC Computer Percentages

Table 26

Week #6 / Set #6 Weekly
MECC Computer Percentages

Student ID #	# Tried	# CORRECT	% Of Correct Answers
1	7	7	100%
2	7	7	100%
3	7	7	100%
4	7	6	86%
5	7	7	100%
6	7	7	100%
7	7	7	100%
8	7	6	86%
9	7	5	71%
10	7	7	100%
11	7	7	100%
12	7	4	57%

Eleven out of twelve reached the seventieth percentile objective in week #6 (Table 26) on the MECC computer percentages (Appendix F:97). Student number twelve scored below the seventieth percentile (57%) on the computer percentages and above (71%) on the written quiz.

Week #7 / Set #7 Written Exam

Set #7 corresponds to lessons 25-26 in the Master Theory I Workbook. Lessons 25-26 cover the concepts of time signatures, dotted notes, and note duration. Written quiz results (Appendix E:88) for week #7 were (Table 27):

Table 27

Week #7 / Set #7 Weekly Written Quiz Results

Letter Grade	# of Students Per Grade	% of Students Per Grade
A	11	92%
B	1	8%
C	0	0%
D	0	0%
F	0	0%
C OR ABOVE	12	100%
D OR BELOW	0	0%

Eleven out of twelve scored 100% on the written exam for week #7. All students reached the seventieth percentile objective.

Week #7 / Set #7 MECC Computer Percentages

Table 28

Week #7 / Set #7 Weekly
MECC Computer Percentages

Student ID #	# Tried	# CORRECT	% Of Correct Answers
1	5	5	100%
2	5	5	100%
3	5	5	100%
4	5	4	80%
5	5	5	100%
6	5	5	100%
7	5	5	100%
8	5	5	100%
9	5	4	80%
10	5	5	100%
11	5	5	100%
12	5	5	100%

Ten out of twelve students scored 100% on the computer percentages (Appendix F:97) for week #7 (Table 28). All students achieved the seventieth percentile objective.

Week #8 /Set #8 Written Exam

Set #8 corresponds to lessons 27-29 in the Master Theory I Workbook. Lessons 27-29 cover the concepts of flat, sharp, and natural signs. Written quiz results (Appendix E:88) for week #8 were (Table 29):

Table 29

Week #8 / Set #8 Weekly Written Quiz Results

Letter Grade	# of Students Per Grade	% of Students Per Grade
A	9	75%
B	2	17%
C	0	0%
D	1	8%
F	0	0%
C OR ABOVE	11	92%
D OR BELOW	1	8%

Eleven out of twelve reached the seventieth percentile objective for week #8. Nine students recorded 100% scores. One student failed to reach the seventieth percentile.

Week #8 / Set #8 MECC Computer Percentages

Table 30

Week #8 / Set #8 Weekly
MECC Computer Percentages

Student ID #	# Tried	# CORRECT	% Of Correct Answers
1	6	6	100%
2	6	6	100%
3	6	6	100%
4	6	6	100%
5	6	6	100%
6	6	6	100%
7	6	6	100%
8	6	5	83%
9	6	4	67%
10	6	6	100%
11	6	6	100%
12	6	6	100%

For week #8, eleven out of twelve reached the seventieth percentile objective and one failed (Table 30). There were ten 100% scores. Student number eight scored above the seventieth percentile (83%) on the computer percentage and below on the written exam (67%). Student number nine scored below the

seventieth percentile on the computer percentage (67%) and above on the written exam (83%).

Week #9 was used as a review week. A written exam was not administered. Students worked the entire week on the computer program. Sets #9 and #10 (Tables 31 & 32) are the results of the computer review (Appendix F:97).

Week #9 / Set #9 MECC Computer Percentages

Table 31

Week #9 / Set #9 Weekly
MECC Computer Percentages

Student ID #	# Tried	# CORRECT	% Of Correct Answers
1	27	27	100%
2	27	23	85%
3	27	27	100%
4	27	27	100%
5	27	27	100%
6	27	27	100%
7	27	27	100%
8	27	27	100%
9	27	25	93%
10	27	27	100%
11	27	27	100%
12	27	26	96%

All students reached the seventieth percentile objective for set #9 (Table 31). There were nine 100% scores.

Table 32

Week #9 / Set #10 Weekly
MECC Computer Percentages

Student ID #	# Tried	# CORRECT	% Of Correct Answers
1	30	30	100%
2	30	30	100%
3	30	30	100%
4	30	29	97%
5	30	29	97%
6	30	30	100%
7	30	30	100%
8	30	29	97%
9	30	27	90%
10	30	30	100%
11	30	30	100%
12	30	29	97%

All students reached the seventieth percentile objective on set #10 (Table 32). Seven out of twelve recorded 100% scores.

Week #10 Post-test Results

The post-test (Appendix B:70) covered all material presented in the Master Theory I Workbook. The Post-test results (Appendix H:111) were (Table 32):

Table 33

Post-test Results for Master Theory I

# of Students Per Grade	% of Students Per Grade	Letter Grade
8	67%	A
0	0%	B
2	17%	C
2	17%	D
0	0%	F

Ten out of twelve students (84%) reached the seventieth percentile objective on the post-test. Two students (17%) recorded a grade of "D". There were two 100% scores, with a total of eight out twelve students receiving a grade of "A".

Table 34

Pre and Post-test
Percentage Comparison

Student ID #	Pre Test	Post Test	Percentage Increase
1	94%	98%	4%
2	53%	77%	24%
3	85%	96%	11%
4	68%	92%	24%
5	85%	100%	15%
6	81%	94%	13%
7	98%	100%	2%
8	25%	64%	39%
9	43%	62%	19%
10	42%	70%	28%
11	75%	94%	19%
12	74%	92%	18%

The first objective, each student will increase their score on the Master Theory I standardized test to the seventieth percentile or above, was achieved by ten out of twelve students (84%) in the target group (Table 34). Two students recorded 100% scores. The two students (8 & 9), not reaching the seventieth percentile objective, increased their percent correct scores significantly. Student number eight scored 64% on the post-test. That is an increase of 39% over the pre-test. Student number nine scored 62% on the post-test, an increase of 19% over the pre-test. Students eight and nine received a grade of "F" on the pre-test and a grade of "D" on the post-test.

The second objective, each student within the target group will score in the seventieth percentile on the weekly written quizzes, was achieved six out of eight times. Twice, during the eight weeks of written quizzes, students failed to reach the seventieth percentile . Student (#8) failed to reach the seventieth percentile objective, each of these weeks . Therefore, eleven out of twelve students (92%) reached the objective. The MECC Study Guide

course was 8%, one student, short of the seventieth percentile objective.

The third objective, 80% of the target group will indicate that they would continue to use the computer lab to learn musical terms, was achieved. A student survey (Appendix J:16) produced all positive answers. All twelve students indicated they would continue using the computer and the MECC Study Guide to learn musical terms (Appendix L:130). The target group also indicated that they worked through the music terminology in less time on the computer, than they did with the written Master Theory I Workbook.

CHAPTER V

Recommendations

This practicum establishes that the use of the MECC Study Guide, to learn musical terms, produced significant positive results. Students increased their percent correct between the pre and post-test. The average percent increase for the target group was 18.2%, with one student recording a 40% increase. Also, students responded favorably toward the use of the MECC Study Guide and the computer to learn musical terms. The target group's obvious success on the computer program had a decided affect on the outcome of the written exams.

Though the objective of the practicum was not achieved, each student percentage did increase significantly. The author choose the MECC Study Guide program because of it's availability and cost at the time of implementation. The program uses only

text which, in the author's opinion, makes it difficult to maintain the attention of some students. The advantage to the MECC Study Guide is the teacher inputs the questions and answers. The guide can be used in any classroom situation and for any material. A program that utilizes graphics and sound would be more desirable in a music situation. The drawback, with most of the music programs marketed today, is they don't allow the teacher to input or change data. Therefore, the author suggests the use of one of the music programs listed in Appendix M: be supplemented with a program like the MECC Study Guide. The students would have visual graphics and sound to increase their interest, while the teacher would have the flexibility of customizing material into quizzes and tests.

A problem with the MECC Study Guide is the speed at which it runs. It can be very slow at times. The program has to access the disk drive for each function. To enter a question the teacher has to move through three steps each time. This is time consuming and slows the entering of data

considerably. The author observed that the program seemed to move too slow for some of the students also. The student would answer a question and then have to wait for the computer to move to the disk drive, record their answer, and then load another question. The slowness with which the program moves is a definite problem. Still, the program does aid the teacher in processing a lot of data. The designer part of the program allows the teacher to print custom tests and quizzes from the material entered. That alone is worth the price of the program. The author plans to use the MECC Study Guide to sort and arrange the many worksheets, quizzes and tests that he has accumulated over the past seventeen years.

The author plans to share the results and evaluation of this practicum with the staff of the target school. A teacher survey (Appendix G:108) will be taken at the start of the school year. Sessions with interested teachers will be set up to suggest how the MECC Study Guide might be utilized in their classroom situations.

The author also plans to share the results of this practicum with the state Music Educators Association. Each member will receive a letter summarizing the findings of this study (Appendix N:137). The author will supply any interested members with more information on the MECC Study Guide.

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APPENDIX A

BEGINNING BAND PROCEDURAL GUIDE

I. DESCRIPTION

Beginning band experience includes instruction in the fundamentals of music reading, the basic technical skills necessary to play an instrument (woodwind, brass, and percussion), and instruction in the broader concepts of music (melody, rhythm, harmony, timbre, dynamics, and form). Experience in listening, structural analysis, theory, and historical understanding of cultural development, resulting in aesthetic appreciation, is also integrated into the curriculum. No previous instrumental training is necessary for students wishing to participate. It is recommended that class instruction be provided a minimum of four (4) times per week, forty (40) minutes per instructional period for the benefit of any sixth grade student electing to participate in beginning band.

II. GENERAL OBJECTIVES

A. <u>To promote social development.</u>

Studying an instrument strengthens a student's ability to think independently which is the basis for creativity.

B. <u>To promote perceptual skill development.</u>

While learning to play an instrument, the child develops physical and mental coordination skills which can contribute to the child's ability to learn in other subject areas.

C. To build character.

Studying a musical instrument and playing with others in a band helps develop initiative, self-discipline, leadership, and responsibility.

D. To develop self-confidence.

The experience of playing in a band gives the child individual recognition thus improving self-image and stature.

III. PERFORMANCE OBJECTIVES

A. First Semester

1. To learn and demonstrate proper care, maintenance, and assembly of the instrument.

2. To establish proper daily home-practice habits.

3. To develop correct posture and hand position for playing the instrument.

4. To develop correct embouchure, breath support, and control for producing the characteristic tone quality on a wind instrument.

5. To identify and interpret whole to eight notes and rest values plus the 4/4, 2/4, and 3/4 time signatures.

6. To recognize the note names and pitches.

7. To identify and interpret basic music terms and symbols including crescendo, decrescendo, accelerando, ritard, fermata, slur, breath markings, and repeat signs.

8. To recognize and play scales and literature in the concert keys of B-flat, F, and E-flat.

9. To recognize and produce simple phrases.

10. To develop and awareness and understanding of good intonation.

11. To respond to the conductor's physical movements relating to interpretation of tempo, phrasing, dynamics, and articulation.

B. Second Semester

1. To count and play dotted eighth and sixteenth notes and rests, triplet patterns, plus the 6/8 and 2/2 meter signatures.

2. To extend the playing range of all instruments, particularly the ;upper register of the woodwinds.

3. To develop understanding of the transposition of each instrument relative to concert key.

4. To recognize and play scales and literature in the concert keys of B-flat, F, E-flat, A-flat, and C.

5. To identify and interpret the dynamic markings such as pp, p, mp,f, ff, sfx, and mf.

6. To recognize and execute staccato, legato, accent, marcato, and caesura.

7. To introduce and play concert literature.

8. To participate in small and large group public performances in concerts and festivals.

APPENDIX B

MASTER THEORY I

WORKBOOK TEST

1. There are ____ lines and ____ spaces in the music staff.

2. The bottom line of the staff is line number ____.

3. The first space down from the top of the staff is space number ____.

4. The treble clef sign is also called the ____ clef sign.

5. The bass clef sign is also called the ____ clef sign.

6. The treble clef names the second line ____; the bass clef names the fourth line ____.

7. The letters of the alphabet used in naming the notes are __ __ __ __ __ __ __ .

8. The letter names of the treble clef lines are __ __ __ __ __ , treble clef spaces __ __ __ __ .

9. The letter names of the bass clef lines are __ __ __ __ __ , bass clef spaces __ __ __ __ .

10. The stems go _____ for all notes below the third line of the staff.

11. The stems go _____ for all notes on or above the third line of the staff.

12. Stems pointing down are always attached to the _____ side of the note.

13. A _____ is the distance between two bar lines.

14. A double bar means the _____ of that part of the music.

15. We call the numbers 2/4 3/4 4/4 etc. at the beginning of music the _____ signatures.

16. We can tell the number of beats in each measure by the _____ number.

17. We can tell the kind of a note that gets one beat by the _____ number.

18. The quarter note receives ____ beat when the lower number of the time signature is a 4.

19. The half note receives ____ beats when the lower number of the time signature is a 4.

20. The whole note receives ____ beats when the lower number of the time signature is a 4.

21. A whole note equals _____ half rests.

22. A whole note equals _____ quarter rests.

23. A whole note equals _____ whole rest.

24. A dot after a note is equal to _____ the value of the note it follows.

25. In 6/4 a dotted whole note receives _____ beats.

26. In 4/4 a dotted half note receives _____ beats.

27. Added lines above or below the staff are called _____ lines.

28. In the treble clef the second leger line above the staff is _____ .

29. In the bass clef the second leger line above the staff is _____.

30. When two dots are placed before a double bar we call it a _____ sign.

31. When you come to a repeat sign you go back to the last _____ sign or to the _____ .

32. Play the 1st ending - repeat - _____ the 1st ending and play the _____ ending.

33. Tied notes are always on the same _____ or _____ .

34. Ties can also cross _____ lines to join notes in adjacent measures.

35. A dotted half note tied to a _____ note equals four beats.

36. Slurred notes are always on different _____ and _____ .

37. Slurs can also cross _____ lines.

38. Slurred notes are always played in a _____ or continuous sound

39. One quarter note equals _____ eighth notes.

40. It takes _____ eighth notes to equal one whole note.

41. Never beat your foot _____ on "an" when counting time.

42. One quarter rest equals _____ eighth rests.

43. One eighth rest equals _____ beat.

44. One half rest equals _____ eighth rests.

45. In 2/4 3/4 or 4/4/ a dotted quarter note receives _____ beats.

46. A dotted quarter note equals _____ eighth notes.

47. A dotted quarter note is usually followed by an _____ note.

48. A flat _____ the pitch or sound of a note _____ step.

49. A sharp _____ the pitch or sound of a note _____ step.

50. A natural _____ the effect of a flat or sharp.

51. Flat, sharp and natural signs are called _____ .

52. An accidental affects all notes on the same line or space in that one _____ .

53. The effect of an accidental never crosses a bar line except when the notes are _____ .

Appendix C

Music Teacher Survey

Please take time to fill out and answer the following survey and return to room 27.

In teaching specific terms and terminology do you use:

(1) Workbooks ____ yes ____ no ____ often ____ seldom

(1a) Does your workbook come with ready made separate study sheets and tests?
____ yes
____ no

(2) Worksheets ____ yes ____ no ____ often ____ seldom

(2a) Do you make your own worksheets?
____ yes ____ no ____ often ____ seldom

(3) Text book(s) ____ yes ____ no ____ often ____ seldom

(3a) Does your text book(s) come with study sheets and or supplemental material for reinforcement?
____ yes
____ no

(4) Lecture ____ yes ____ no ____ often ____ seldom

(5) Electronic media (tapes, films) ____ yes ____ no ____ often ____ seldom

(5a) Do your tapes and films come with supplemental material for reinforcement?

____ yes
____ no

(6) Computer assisted learning ____ yes ____ often ____ no ____ often

(6a) Do you have a computer in your class room?

____ yes
____ no

(6b) Do you use the computer in direct instruction of students?

____ yes
____ no

(6c) Please list computer programs you use in your classroom or home.

_____
_____
_____
_____
_____

(7) Do you find yourself skipping over terms and terminology just to get the student started.

____ yes
____ no

(8) Do you find it difficult to reinforce the terms and terminology introduced to your classes.

____ yes
____ no

(9) Do you think there is a problem with the retention and reinforcement of musical terminology in the beginning music student?

____ yes
____ no

(10) Would you be interested in information regarding computer aided learning?

____ yes
____ no

Name _____ Room # _____

Thank you for your cooperation.

APPENDIX D

MECC Study Guide
Weekly Written Quizzes

MASTER THEORY QUIZ LESSONS 1-4

Name _____ Date _____

Class _____

1. The top line of the staff is line number?

   Answer:_____

2. Write the letter names of all the lines and spaces from line one to line five in the bass clef.

   Answer:_____

3. The treble (or G) clef sign circles staff line number?

   Answer:_____

4. Write the letter names of the lines in the treble clef.

   Answer:_____

5. Write the the letter names of the lines in the treble clef.

   Answer:_____

6. Write the letter names of the spaces in the treble clef.

   Answer:_____

7. Write the letter names of the lines in the bass clef.

   Answer:_____

8. Write the letter names of the spaces in the bass clef.

   Answer:_____

MASTER THEORY QUIZ LESSONS 5-8

Name _____ Date _____

Class _____

1. Which direction will the stem go for treble clef B?

   Answer:_____

2. Which direction will the stem go for bass clef C?

   Answer:_____

3. The distance between any two bar lines is called a?

   Answer:_____

4. When any part of the music is completed, we use a double?

   Answer:_____

5. If the top number in the time signature is a 3, how many beats will be in each measure?

   Answer:_____

6. If the top number in the time signature is a four, how many beats will there be in each measure?

   Answer:_____

7. If the top number in the time signature is a 2, how many beats will be in each measure?

   Answer:_____

8. A double bar indicates the?

   Answer:_____

MASTER THEORY QUIZ LESSONS 9-12

Name _____ Date _____

Class _____

1. When the lower number of the time signature is a 4, how many beats will a quarter rest receive?

   Answer:_____

2. How many half rests equal a whole rest?

   Answer:_____

3. When ;the lower number of the time signature is a 4, how many beats will a half rest receive?

   Answer:_____

4. How many quarter rests equal a whole rest?

   Answer:_____

5. When the lower number of the time signature is a 4, how many beats will a whole note receive?

   Answer:_____

6. When the lower number of the time signature is a 4, a half note receives how many beats?

   Answer:_____

7. When the lower number of the time signature is a 4, how many beats will a whole rest receive?

   Answer:_____

8. How many quarter rests equal a half rest?

   Answer:_____

MASTER THEORY QUIZ LESSONS 13-16

Name _____ Date _____

Class _____

1. How many half-notes equal one dotted whole note?

   Answer:_____

2. What do we call the added lines above or below the music staff?

   Answer:_____

3. What are the letter names of the first four notes below the treble clef staff?

   Answer:_____

4. What are the letter names of the first four notes above the bass clef staff?

   Answer:_____

5. What are the letter names of the first four notes above the treble clef staff?

   Answer:_____

6. How many quarter notes equal one dotted half note?

   Answer:_____

7. How many beats does a dotted half note receive?

   Answer:_____

8. How many beats does a dotted whole note receive?

   Answer:_____

MASTER THEORY QUIZ LESSONS 17-20

Name _____ Date _____

Class _____

1. Two dots placed before a double bar are called a?

   Answer:_____

2. How many beats will a quarter note tied to a dotted half note receive?

   Answer:_____

3. How many beats will a half note tied to a dotted half note receive?

   Answer:_____

4. How many beats will a whole note tied to a half note receive?

   Answer:_____

5. A curved line used to connect notes of different lines or spaces is called a?

   Answer:_____

6. How many beats will a quarter note tied to a half note receive?

   Answer:_____

7. How many beats will a dotted half note tied to a quarter note receive?

   Answer:_____

8. A curved line connecting two or more notes on the same line or space is called a?

   Answer:_____

MASTER THEORY QUIZ LESSONS 21-24

Name _____ Date _____

Class _____

1. Which way does your foot move on the AN (+) of the beat?

   Answer:_____

2. How many eighth notes does it take to equal one whole note?

   Answer:_____

3. How many eighth rests equal one quarter rest?

   Answer:_____

4. How many eighth notes equal one quarter note?

   Answer:_____

5. How many eighth rests equal one half rest?

   Answer:_____

6. When a quarter note equals one beat, how many beats does an eighth note receive?

   Answer:_____

7. Add a flag to the stem of a quarter note and it becomes what kind of a note?

   Answer:_____

MASTER THEORY QUIZ LESSONS 25-26

Name _____ Date _____

Class _____

1. When the bottom number of the time signature is a 4, how many beats will a dotted quarter note receive?

   A. 1
   B. 2
   C. 3
   D. 1 1/2

   Answer:_____

2. A dot placed after a note is equal to how much of the value of the note it follows?

   Answer:_____

3. A dotted quarter note equals how many eighth notes?

   Answer:_____

4. A dotted quarter note is usually followed by what type of a note?

   Answer:_____

5. How many dotted quarter notes does it take to equal one dotted half note?

   Answer:_____

MASTER THEORY QUIZ LESSONS 27-29

Name _____ Date _____

Class _____

1. Flat, sharp and natural signs are called?

   Answer:_____

2. Except when the notes are tied, the effect of an accidental never crosses a?

   Answer:_____

3. Does a flat raise or lower the sound of a note?

   Answer:_____

4. What does a natural sign do the to effect of a sharp or flat?

   Answer:_____

5. Accidentals affect all notes which follow on the same line or space within a?

   Answer:_____

6. Does a sharp lower or raise the sound of a note?

   Answer:_____

APPENDIX E

WEEK #1
WEEKLY WRITTEN QUIZ RESULTS
SET #1 MASTER THEORY LESSONS 1-4

STUDENT NAME	STUDENT NUMBER	NUMBER TRIED	NUMBER CORRECT	PERCENT CORRECT
STUDENT	1	8	8	100%
STUDENT	2	8	6	75%
STUDENT	3	8	8	100%
STUDENT	4	8	8	100%
STUDENT	5	8	8	100%
STUDENT	6	8	8	100%
STUDENT	7	8	7	88%
STUDENT	8	8	5	62%
STUDENT	9	8	8	100%
STUDENT	10	8	7	88%
STUDENT	11	8	8	100%
STUDENT	12	8	8	100%

WEEK #2
WEEKLY WRITTEN QUIZ RESULTS
SET #2 MASTER THEORY LESSONS 5-8

STUDENT NAME	STUDENT NUMBER	NUMBER TRIED	NUMBER CORRECT	PERCENT CORRECT
STUDENT	1	8	8	100%
STUDENT	2	8	8	100%
STUDENT	3	8	7	88%
STUDENT	4	8	8	100%
STUDENT	5	8	8	100%
STUDENT	6	8	7	88%
STUDENT	7	8	8	100%
STUDENT	8	8	8	100%
STUDENT	9	8	6	75%
STUDENT	10	8	8	100%
STUDENT	11	8	8	100%
STUDENT	12	8	8	100%

WEEK #3
WEEKLY WRITTEN QUIZ RESULTS
SET #3 MASTER THEORY LESSONS 9-12

STUDENT NAME	STUDENT NUMBER	NUMBER TRIED	NUMBER CORRECT	PERCENT CORRECT
STUDENT	1	8	8	100%
STUDENT	2	8	7	88%
STUDENT	3	8	8	100%
STUDENT	4	8	7	88%
STUDENT	5	8	8	100%
STUDENT	6	8	8	100%
STUDENT	7	8	8	100%
STUDENT	8	8	8	100%
STUDENT	9	8	6	75%
STUDENT	10	8	8	100%
STUDENT	11	8	8	100%
STUDENT	12	8	7	88%

WEEK #4
WEEKLY WRITTEN QUIZ RESULTS
SET #4 MASTER THEORY LESSONS 13-16

STUDENT NAME	STUDENT NUMBER	NUMBER TRIED	NUMBER CORRECT	PERCENT CORRECT
STUDENT	1	8	7	88%
STUDENT	2	8	8	100%
STUDENT	3	8	7	88%
STUDENT	4	8	6	75%
STUDENT	5	8	8	100%
STUDENT	6	8	8	100%
STUDENT	7	8	8	100%
STUDENT	8	8	8	100%
STUDENT	9	8	6	75%
STUDENT	10	8	8	100%
STUDENT	11	8	8	100%
STUDENT	12	8	7	88%

WEEK #5
WEEKLY WRITTEN QUIZ RESULTS
SET #5 MASTER THEORY LESSONS 17-20

STUDENT NAME	STUDENT NUMBER	NUMBER TRIED	NUMBER CORRECT	PERCENT CORRECT
STUDENT	1	8	8	100%
STUDENT	2	8	8	100%
STUDENT	3	8	7	88%
STUDENT	4	8	8	100%
STUDENT	5	8	8	100%
STUDENT	6	8	8	100%
STUDENT	7	8	8	100%
STUDENT	8	8	8	100%
STUDENT	9	8	6	75%
STUDENT	10	8	8	100%
STUDENT	11	8	8	100%
STUDENT	12	8	8	100%

WEEK #6
WEEKLY WRITTEN QUIZ RESULTS
SET #6 MASTER THEORY LESSONS 21-24

STUDENT NAME	STUDENT NUMBER	NUMBER TRIED	NUMBER CORRECT	PERCENT CORRECT
STUDENT	1	7	7	100%
STUDENT	2	7	7	100%
STUDENT	3	7	7	100%
STUDENT	4	7	5	71%
STUDENT	5	7	7	100%
STUDENT	6	7	7	100%
STUDENT	7	7	7	100%
STUDENT	8	7	6	86%
STUDENT	9	7	5	71%
STUDENT	10	7	7	100%
STUDENT	11	7	7	100%
STUDENT	12	7	5	71%

WEEK #7
WEEKLY WRITTEN QUIZ RESULTS
SET #7 MASTER THEORY LESSONS 25-26

STUDENT NAME	STUDENT NUMBER	NUMBER TRIED	NUMBER CORRECT	PERCENT CORRECT
STUDENT	1	5	5	100%
STUDENT	2	5	5	100%
STUDENT	3	5	5	100%
STUDENT	4	5	5	100%
STUDENT	5	5	5	100%
STUDENT	6	5	5	100%
STUDENT	7	5	5	100%
STUDENT	8	5	5	100%
STUDENT	9	5	4	80%
STUDENT	10	5	5	100%
STUDENT	11	5	5	100%
STUDENT	12	5	5	100%

WEEK #8
WEEKLY WRITTEN QUIZ RESULTS
SET #8 MASTER THEORY LESSONS 27-29

STUDENT NAME	STUDENT NUMBER	NUMBER TRIED	NUMBER CORRECT	PERCENT CORRECT
STUDENT	1	6	6	100%
STUDENT	2	6	6	100%
STUDENT	3	6	5	83%
STUDENT	4	6	6	100%
STUDENT	5	6	6	100%
STUDENT	6	6	6	100%
STUDENT	7	6	6	100%
STUDENT	8	6	4	67%
STUDENT	9	6	5	83%
STUDENT	10	6	6	100%
STUDENT	11	6	6	100%
STUDENT	12	6	6	100%

APPENDIX F

WEEK #1
MECC COMPUTER PERCENTAGES
SET #1 MASTER THEORY LESSONS 1-4

STUDENT NAME	ID #	# TRIED	NUMBER CORRECT	PERCENT CORRECT
STUDENT	1	16	16	100%
STUDENT	2	16	11	69%
STUDENT	3	16	16	100%
STUDENT	4	16	15	94%
STUDENT	5	16	16	100%
STUDENT	6	16	16	100%
STUDENT	7	16	16	100%
STUDENT	8	16	14	88%
STUDENT	9	16	16	100%
STUDENT	10	16	13	81%
STUDENT	11	16	16	100%
STUDENT	12	16	16	100%

WEEK #2
MECC COMPUTER PERCENTAGES
SET #2 MASTER THEORY LESSONS 5-8

STUDENT NAME	ID #	# TRIED	NUMBER CORRECT	PERCENT CORRECT
STUDENT	1	9	9	100%
STUDENT	2	9	9	100%
STUDENT	3	9	9	100%
STUDENT	4	9	9	100%
STUDENT	5	9	9	100%
STUDENT	6	9	9	100%
STUDENT	7	9	9	100%
STUDENT	8	9	9	100%
STUDENT	9	9	7	78%
STUDENT	10	9	9	100%
STUDENT	11	9	9	100%
STUDENT	12	9	9	100%

WEEK #3
MECC COMPUTER PERCENTAGES
SET #3 MASTER THEORY LESSONS 9-12

STUDENT NAME	ID #	# TRIED	NUMBER CORRECT	PERCENT CORRECT
STUDENT	1	9	9	100%
STUDENT	2	9	9	100%
STUDENT	3	9	9	100%
STUDENT	4	9	9	100%
STUDENT	5	9	9	100%
STUDENT	6	9	9	100%
STUDENT	7	9	9	100%
STUDENT	8	9	9	100%
STUDENT	9	9	8	89%
STUDENT	10	9	9	100%
STUDENT	11	9	9	100%
STUDENT	12	9	9	100%

WEEK #4
MECC COMPUTER PERCENTAGES
SET #4 MASTER THEORY LESSONS 13-16

STUDENT NAME	ID #	# TRIED	NUMBER CORRECT	PERCENT CORRECT
STUDENT	1	9	9	100%
STUDENT	2	9	9	100%
STUDENT	3	9	8	89%
STUDENT	4	9	8	89%
STUDENT	5	9	9	100%
STUDENT	6	9	9	100%
STUDENT	7	9	9	100%
STUDENT	8	9	8	89%
STUDENT	8	9	9	100%
STUDENT	9	9	7	78%
STUDENT	10	9	9	100%
STUDENT	11	9	9	100%
STUDENT	12	9	9	100%

WEEK #5
MECC COMPUTER PERCENTAGES
SET #5 MASTER THEORY LESSONS 17-20

STUDENT NAME	ID #	# TRIED	NUMBER CORRECT	PERCENT CORRECT
STUDENT	1	10	10	100%
STUDENT	2	10	9	90%
STUDENT	3	10	9	90%
STUDENT	4	10	10	100%
STUDENT	5	10	10	100%
STUDENT	6	10	10	100%
STUDENT	7	10	10	100%
STUDENT	8	10	10	100%
STUDENT	9	10	7	70%
STUDENT	10	10	10	100%
STUDENT	11	10	9	90%
STUDENT	12	10	10	100%

WEEK #6
MECC COMPUTER PERCENTAGES
SET #6 MASTER THEORY LESSONS 21-24

STUDENT NAME	ID #	# TRIED	NUMBER CORRECT	PERCENT CORRECT
STUDENT	1	7	7	100%
STUDENT	2	7	7	100%
STUDENT	3	7	7	100%
STUDENT	4	7	6	86%
STUDENT	5	7	7	100%
STUDENT	6	7	7	100%
STUDENT	7	7	7	100%
STUDENT	8	7	6	86%
STUDENT	9	7	5	71%
STUDENT	10	7	7	100%
STUDENT	11	7	7	100%
STUDENT	12	7	7	100%

WEEK #7
MECC COMPUTER PERCENTAGES
SET #7 MASTER THEORY LESSONS 25-26

STUDENT NAME	ID #	# TRIED	NUMBER CORRECT	PERCENT CORRECT
STUDENT	1	5	5	100%
STUDENT	2	5	5	100%
STUDENT	3	5	5	100%
STUDENT	4	5	4	80%
STUDENT	5	5	5	100%
STUDENT	6	5	5	100%
STUDENT	7	5	5	100%
STUDENT	8	5	5	100%
STUDENT	9	5	4	80%
STUDENT	10	5	5	100%
STUDENT	11	5	5	100%
STUDENT	12	5	5	100%

WEEK #8
MECC COMPUTER PERCENTAGES
SET #8 MASTER THEORY LESSONS 27-29

STUDENT NAME	ID #	# TRIED	NUMBER CORRECT	PERCENT CORRECT
STUDENT	1	6	6	100%
STUDENT	2	6	6	100%
STUDENT	3	6	6	100%
STUDENT	4	6	6	100%
STUDENT	5	6	6	100%
STUDENT	6	6	6	100%
STUDENT	7	6	6	100%
STUDENT	8	6	5	83%
STUDENT	9	6	4	67%
STUDENT	10	6	6	100%
STUDENT	11	6	6	100%
STUDENT	12	6	6	100%

WEEK #9
MECC COMPUTER PERCENTAGES
SET #9 MASTER THEORY REVIEW 1-12

STUDENT NAME	ID #	# TRIED	NUMBER CORRECT	PERCENT CORRECT
STUDENT	1	27	27	100%
STUDENT	2	27	23	85%
STUDENT	3	27	27	100%
STUDENT	4	27	27	100%
STUDENT	5	27	27	100%
STUDENT	6	27	27	100%
STUDENT	7	27	27	100%
STUDENT	8	27	27	100%
STUDENT	9	27	25	93%
STUDENT	10	27	27	100%
STUDENT	11	27	27	100%
STUDENT	12	27	26	96%

WEEK #9
MECC COMPUTER PERCENTAGES
SET #10 MASTER THEORY REVIEW 13-29

STUDENT NAME	ID #.	# TRIED	NUMBER CORRECT	PERCENT CORRECT
STUDENT	1	30	30	100%
STUDENT	2	30	30	100%
STUDENT	3	30	30	100%
STUDENT	4	30	29	97%
STUDENT	5	30	29	97%
STUDENT	6	30	30	100%
STUDENT	7	30	30	100%
STUDENT	8	30	29	97%
STUDENT	9	30	27	90%
STUDENT	10	30	30	100%
STUDENT	11	30	30	100%
STUDENT	12	30	29	97%

Appendix G

Teacher Survey

Please take time to fill out and answer the following survey and return to room 27.

In teaching specific terms and terminology do you use:

(1) Workbooks ____ yes ____ no ____ often ____ seldom

(1a) Does your workbook come with ready made separate study sheets and tests?
____ yes
____ no

(2) Worksheets ____ yes ____ no ____ often ____ seldom

(2a) Do you make your own worksheets?
____ yes ____ no ____ often ____ seldom

(3) Text book(s) ____ yes ____ no ____ often ____ seldom

(3a) Does your text book(s) come with study sheets and or supplemental material for reinforcement?
____ yes
____ no

(4) Lecture ____ yes ____ no ____ often ____ seldom

(5) Electronic media ____ yes ____ often

(tapes, films) ____ no ____ seldom

(5a) Do your tapes and films come with supplemental material for reinforcement?

____ yes
____ no

(6) Computer assisted learning ____ yes ____ often
____ no ____ often

(6a) Do you have a computer in your class room?

____ yes
____ no

(6b) Do you use the computer in direct instruction of students?

____ yes
____ no

(6c) Please list computer programs you use in your classroom or home.

_____
_____
_____
_____
_____

Would you be interested in information regarding computer aided learning?

____ yes
____ no

Name _____ Room # _____

Thank you for your cooperation.

APPENDIX H

PRE-TEST & POST-TEST RESULTS

<-------PRE-TEST------------>

STUDENT NAME	ID #	NUMBER TRIED	NUMBER CORRECT	PERCENT CORRECT
STUDENT	1	53	50	94%
STUDENT	2	53	28	53%
STUDENT	3	53	45	85%
STUDENT	4	53	36	68%
STUDENT	5	53	45	85%
STUDENT	6	53	43	81%
STUDENT	7	53	52	98%
STUDENT	8	53	13	25%
STUDENT	9	53	23	43%
STUDENT	10	53	22	42%
STUDENT	11	53	40	75%
STUDENT	12	53	39	74%

<-------POST-TEST----------------------->

STUDENT NAME	ID #	NUMBER TRIED	NUMBER CORRECT	PERCENT CORRECT	PERCENTAGE INCREASE
STUDENT	1	53	52	98%	3.8
STUDENT	2	53	41	77%	24.5
STUDENT	3	53	51	96%	11.3
STUDENT	4	53	49	92%	24.5
STUDENT	5	53	53	100%	15.1
STUDENT	6	53	50	94%	13.2
STUDENT	7	53	53	100%	1.9
STUDENT	8	53	34	64%	39.6
STUDENT	9	53	33	62%	18.9
STUDENT	10	53	37	70%	28.3
STUDENT	11	53	50	94%	18.9
STUDENT	12	53	49	92%	18.9
AVERAGE PERCENT OF INCREASE FOR GROUP					18.2

APPENDIX I

RESULTS GROUPED BY STUDENT

STUDENT #1

WEEK #	TYPE/MECC OR QUIZ	NUMBER TRIED	NUMBER CORRECT	PERCENT CORRECT	LETTER GRADE
1	PRE-TEST	53	50	94%	A
	MECC	16	16	100%	
	QUIZ	8	8	100%	
2	MECC	9	9	100%	
	QUIZ	8	8	100%	
3	MECC	9	9	100%	
	QUIZ	8	8	100%	
4	MECC	9	9	100%	
	QUIZ	8	7	88%	
5	MECC	10	10	100%	
	QUIZ	8	8	100%	
6	MECC	7	7	100%	
	QUIZ	7	7	100%	
7	MECC	5	5	100%	
	QUIZ	5	5	100%	
8	MECC	6	6	100%	
	QUIZ	6	6	100%	
9	MECC	27	26	96%	
10	MECC	30	30	100%	
	POST-TEST	53	52	98%	A
% OF INCREASE FROM PRE TO POST-TEST					3.8%

RESULTS GROUPED BY STUDENT

STUDENT #2

WEEK #	TYPE/MECC OR QUIZ	NUMBER TRIED	NUMBER CORRECT	PERCENT CORRECT	LETTER GRADE
1	PRE-TEST	53	28	53%	F
	MECC	16	11	69%	
	QUIZ	8	6	75%	
2	MECC	9	9	100%	
	QUIZ	8	8	100%	
3	MECC	9	9	100%	
	QUIZ	8	7	88%	
4	MECC	9	9	100%	
	QUIZ	8	8	100%	
5	MECC	10	9	90%	
	QUIZ	8	8	100%	
6	MECC	7	7	100%	
	QUIZ	7	7	100%	
7	MECC	5	5	100%	
	QUIZ	5	5	100%	
8	MECC	6	6	100%	
	QUIZ	6	6	100%	
9	MECC	27	23	85%	
10	MECC	30	30	100%	
	POST-TEST	53	41	77%	C
% OF INCREASE FROM PRE TO POST-TEST					24.5%

RESULTS GROUPED BY STUDENT

STUDENT #3

WEEK #	TYPE/MECC OR QUIZ	NUMBER TRIED	NUMBER CORRECT	PERCENT CORRECT	LETTER GRADE
1	PRE-TEST	53	45	85%	B
	MECC	16	16	100%	
	QUIZ	8	8	100%	
2	MECC	9	9	100%	
	QUIZ	8	7	88%	
3	MECC	9	9	100%	
	QUIZ	8	8	100%	
4	MECC	9	8	89%	
	QUIZ	8	7	88%	
5	MECC	10	9	90%	
	QUIZ	8	7	88%	
6	MECC	7	7	100%	
	QUIZ	7	7	100%	
7	MECC	5	5	100%	
	QUIZ	5	5	100%	
8	MECC	6	6	100%	
	QUIZ	6	5	83%	
9	MECC	27	27	100%	
10	MECC	30	30	100%	
	POST-TEST	53	51	96%	A
% OF INCREASE FROM PRE TO POST-TEST					11.3%

RESULTS GROUPED BY STUDENT

STUDENT #4

WEEK #	TYPE/MECC OR QUIZ	NUMBER TRIED	NUMBER CORRECT	PERCENT CORRECT	LETTER GRADE
1	PRE-TEST	53	36	68%	D
	MECC	16	15	94%	
	QUIZ	8	8	100%	
2	MECC	9	7	78%	
	QUIZ	8	8	100%	
3	MECC	9	9	100%	
	QUIZ	8	7	88%	
4	MECC	9	8	89%	
	QUIZ	8	6	75%	
5	MECC	10	10	100%	
	QUIZ	8	8	100%	
6	MECC	7	6	86%	
	QUIZ	7	5	71%	
7	MECC	5	4	80%	
	QUIZ	5	5	100%	
8	MECC	6	6	100%	
	QUIZ	6	6	100%	
9	MECC	27	27	100%	
10	MECC	30	29	97%	
	POST-TEST	53	49	92%	A
% OF INCREASE FROM PRE TO POST-TEST					24.5%

RESULTS GROUPED BY STUDENT

STUDENT #5

WEEK #	TYPE/MECC OR QUIZ	NUMBER TRIED	NUMBER CORRECT	PERCENT CORRECT	LETTER GRADE
1	PRE-TEST	53	45	85%	B
	MECC	16	16	100%	
	QUIZ	8	8	100%	
2	MECC	9	9	100%	
	QUIZ	8	8	100%	
3	MECC	9	9	100%	
	QUIZ	8	8	100%	
4	MECC	9	9	100%	
	QUIZ	8	8	100%	
5	MECC	10	10	100%	
	QUIZ	8	8	100%	
6	MECC	7	7	100%	
	QUIZ	7	7	100%	
7	MECC	5	5	100%	
	QUIZ	5	5	100%	
8	MECC	6	6	100%	
	QUIZ	6	6	100%	
9	MECC	27	27	100%	
10	MECC	30	29	97%	
	POST-TEST	53	53	100%	A
% OF INCREASE FROM PRE TO POST-TEST					15.1%

RESULTS GROUPED BY STUDENT

STUDENT #6

WEEK #	TYPE/MECC OR QUIZ	NUMBER TRIED	NUMBER CORRECT	PERCENT CORRECT	LETTER GRADE
1	PRE-TEST	53	43	81%	B
	MECC	16	16	100%	
	QUIZ	8	8	100%	
2	MECC	9	9	100%	
	QUIZ	8	7	88%	
3	MECC	9	9	100%	
	QUIZ	8	8	100%	
4	MECC	9	9	100%	
	QUIZ	8	8	100%	
5	MECC	10	10	100%	
	QUIZ	8	8	100%	
6	MECC	7	7	100%	
	QUIZ	7	7	100%	
7	MECC	5	5	100%	
	QUIZ	5	5	100%	
8	MECC	6	6	100%	
	QUIZ	6	6	100%	
9	MECC	27	27	100%	
10	MECC	30	30	100%	
	POST-TEST	53	50	94%	A
% OF INCREASE FROM PRE TO POST-TEST					13.2%

RESULTS GROUPED BY STUDENT

STUDENT #7

WEEK #	TYPE/MECC OR QUIZ	NUMBER TRIED	NUMBER CORRECT	PERCENT CORRECT	LETTER GRADE
1	PRE-TEST	53	52	98%	A
	MECC	16	16	100%	
	QUIZ	8	7	88%	
2	MECC	9	9	100%	
	QUIZ	8	8	100%	
3	MECC	9	9	100%	
	QUIZ	8	8	100%	
4	MECC	9	9	100%	
	QUIZ	8	8	100%	
5	MECC	10	10	100%	
	QUIZ	8	8	100%	
6	MECC	7	7	100%	
	QUIZ	7	7	100%	
7	MECC	5	5	100%	
	QUIZ	5	5	100%	
8	MECC	6	6	100%	
	QUIZ	6	6	100%	
9	MECC	27	27	100%	
10	MECC	30	30	100%	
	POST-TEST	53	53	100%	A
% OF INCREASE FROM PRE TO POST-TEST					1.9%

RESULTS GROUPED BY STUDENT

STUDENT #8

WEEK #	TYPE/MECC OR QUIZ	NUMBER TRIED	NUMBER CORRECT	PERCENT CORRECT	LETTER GRADE
1	PRE-TEST	53	13	25%	F
	MECC	16	14	88%	
	QUIZ	8	5	62%	
2	MECC	9	9	100%	
	QUIZ	8	8	100%	
3	MECC	9	9	100%	
	QUIZ	8	8	100%	
4	MECC	9	9	100%	
	QUIZ	8	8	100%	
5	MECC	10	10	100%	
	QUIZ	8	8	100%	
6	MECC	7	6	86%	
	QUIZ	7	6	86%	
7	MECC	5	5	100%	
	QUIZ	5	5	100%	
8	MECC	6	5	83%	
	QUIZ	6	4	67%	
9	MECC	27	27	100%	
10	MECC	30	29	97%	
	POST-TEST	53	34	64%	D
% OF INCREASE FROM PRE TO POST-TEST					39.6%

RESULTS GROUPED BY STUDENT

STUDENT #9

WEEK #	TYPE/MECC OR QUIZ	NUMBER TRIED	NUMBER CORRECT	PERCENT CORRECT	LETTER GRADE
1	PRE-TEST	53	23	43%	F
	MECC	16	15	94%	
	QUIZ	8	8	100%	
2	MECC	9	7	78%	
	QUIZ	8	6	75%	
3	MECC	9	8	89%	
	QUIZ	8	6	75%	
4	MECC	9	7	78%	
	QUIZ	8	6	75%	
5	MECC	10	7	70%	
	QUIZ	8	6	75%	
6	MECC	7	5	71%	
	QUIZ	7	5	71%	
7	MECC	5	4	80%	
	QUIZ	5	4	80%	
8	MECC	6	4	67%	
	QUIZ	6	5	83%	
9	MECC	27	25	93%	
10	MECC	30	27	90%	
	POST-TEST	53	33	62%	D
% OF INCREASE FROM PRE TO POST-TEST					18.9%

RESULTS GROUPED BY STUDENT

STUDENT #10

WEEK #	TYPE/MECC OR QUIZ	NUMBER TRIED	NUMBER CORRECT	PERCENT CORRECT	LETTER GRADE
1	PRE-TEST	53	22	42%	F
	MECC	16	13	81%	
	QUIZ	8	7	88%	
2	MECC	9	9	100%	
	QUIZ	8	8	100%	
3	MECC	9	9	100%	
	QUIZ	8	8	100%	
4	MECC	9	9	100%	
	QUIZ	8	8	100%	
5	MECC	10	10	100%	
	QUIZ	8	8	100%	
6	MECC	7	7	100%	
	QUIZ	7	7	100%	
7	MECC	5	5	100%	
	QUIZ	5	5	100%	
8	MECC	6	6	100%	
	QUIZ	6	6	100%	
9	MECC	27	27	100%	
10	MECC	30	30	100%	
	POST-TEST	53	37	70%	C
% OF INCREASE FROM PRE TO POST-TEST					28.3%

RESULTS GROUPED BY STUDENT

STUDENT #11

WEEK #	TYPE/MECC OR QUIZ	NUMBER TRIED	NUMBER CORRECT	PERCENT CORRECT	LETTER GRADE
1	PRE-TEST	53	40	75%	C
	MECC	16	16	100%	
	QUIZ	8	8	100%	
2	MECC	9	9	100%	
	QUIZ	8	8	100%	
3	MECC	9	9	100%	
	QUIZ	8	8	100%	
4	MECC	9	9	100%	
	QUIZ	8	8	100%	
5	MECC	10	9	90%	
	QUIZ	8	8	100%	
6	MECC	7	7	100%	
	QUIZ	7	7	100%	
7	MECC	5	5	100%	
	QUIZ	5	5	100%	
8	MECC	6	6	100%	
	QUIZ	6	6	100%	
9	MECC	27	27	100%	
10	MECC	30	30	100%	
	POST-TEST	53	50	94%	A
% OF INCREASE FROM PRE TO POST-TEST					18.9%

RESULTS GROUPED BY STUDENT

STUDENT #12

WEEK #	TYPE/MECC OR QUIZ	NUMBER TRIED	NUMBER CORRECT	PERCENT CORRECT	LETTER GRADE
1	PRE-TEST	53	39	74%	C
	MECC	16	16	100%	
	QUIZ	8	8	100%	
2	MECC	9	9	100%	
	QUIZ	8	8	100%	
3	MECC	9	9	100%	
	QUIZ	8	7	88%	
4	MECC	9	8	89%	
	QUIZ	8	7	88%	
5	MECC	10	10	100%	
	QUIZ	8	8	100%	
6	MECC	7	4	57%	
	QUIZ	7	5	71%	
7	MECC	5	5	100%	
	QUIZ	5	5	100%	
8	MECC	6	6	100%	
	QUIZ	6	6	100%	
9	MECC	27	26	96%	
10	MECC	30	29	97%	
	POST-TEST	53	49	92%	A
% OF INCREASE FROM PRE TO POST-TEST					18.9%

APPENDIX J

Student Survey

(1) Would you enroll in another class using the MECC Study Guide program?

yes ____ no ____

(2) Would you like to continue using the computer to learn musical terms?

yes ____ no ____

(3) Did you learn faster using the computer?

yes ____ no ____

(4) Did you like the class?

yes ____ no ____

(5) Did you move through the terminology presented by the MECC Study Guide faster than the written Master Theory I Workbook?

yes ____ no ____

APPENDIX K

Music Teacher Survey Results

Question #	Teacher 1	Teacher 2	Teacher 3	Teacher 4
1	yes	yes	no	yes
1a	no	no	no	no
2	yes	yes	yes	yes
2a	yes	yes	yes	yes
3	no	no	yes	no
3a	no	no	yes	no
4	yes	yes	yes	yes
5	yes	yes	yes	yes
5a	no	no	no	no
6	no	no	no	no
6a	no	no	no	yes
6b	no	no	no	no
7	yes	yes	yes	yes
8	yes	yes	yes	yes
9	yes	yes	yes	yes
10	yes	yes	yes	yes

APPENDIX L

Student Survey Results

Student #	Question 1	Question 2	Question 3	Question 4	Question 5
1	yes	yes	yes	yes	yes
2	yes	yes	yes	yes	yes
3	yes	yes	yes	yes	yes
4	yes	yes	yes	yes	yes
5	yes	yes	yes	yes	yes
6	yes	yes	yes	yes	yes
7	yes	yes	yes	yes	yes
8	yes	yes	yes	yes	yes
9	yes	yes	yes	yes	yes
10	yes	yes	yes	yes	yes
11	yes	yes	yes	yes	yes
12	yes	yes	yes	yes	yes

APPENDIX M

Recommended Music Programs from Article Entitled "Software", by Robert W. Placek

Practical Music Theory
by Sandy Feldstein.
Versions: Apple II+, IIe, IIc, Commodore-64.
Price: Three theory books and six diskettes, $199.95. Workbooks and disks may be purchased separately.
Limitations: Eighty-four topics ranging from staff and time signatures to key signatures, chords, inversions, harmonizing, dynamic, and composing a melody. Aural and visual examples of materials provided throughout, though dictation skills are not specifically addressed.
Alfred Publishing, 15335 Morrison Street, P.O. Box 5964, Sherman Oaks, California 91413.

Musical Computer, One and Two
Versions: Commodore-64, TRS-80, Atari, Apple II, II+.
Price: $35.00.
Limitations: Bass, treble, rhythm, time signatures, accidentals, tempo and dynamics, and special notations such as staccato markings, accents, ties, and slurs. Graphics and sound used to illustrate concepts.
C.A.T. (Computer Applications Tomorrow), 24151 Telegraph Road, Southfield, Michigan 48034.

Interval Drillmaster
By Gerald Chastain, Jr.
Versions: 48K Apple II, II+,IIe, IIc.
Price: $75.00. Additional student guide, $4; additional teacher guide, $2; additional disk, $10.
Limitations: Ascending and descending intervals, bass and treble clefs, limited to octave, student identifying and notating intervals, twenty-two level.
Special features: Data collection, student record, instructor and student guide books, backup disk.

Turner-Intonation Drill
by Don Pederson.
Versions: 48K Apple II, II+, IIe, IIc.
Price: $35. Additional user notes, $1: additional disk, $10.
Limitations: Tunes two tones; student moves tones to interval.
Special Features: Backup disk; support for ALF synthesizer board.
Conduit, The University of Iowa, Oakdale Campus, Iowa City, Iowa 52242.

Aural Skills Trainer-Intervals
by Vincent Oddo.
Versions: Apple II+, IIe, IIc, Commodore-64, IBM PC (with C/g board), PCjr, Tandy 1000.
Price: $39.95.
Limitations: Concepts taught: recognition of all intervals from unison to octave.
Special features: Student data maintenance, printouts.

Early Music Skills: A Note Recognition Drill
by Lolita Walker Gilkes.
Versions: Apple II+, IIe, IIc, Commodore-64.
Price: $29.95.
Limitations: Line and space notes, number system of musical staff, visual and aural awareness of step, skip, up, down (does not include pitch letter names).
Special features: Optional concept information frames.

Note Speller: A Note Recognition Game
by Lolita Walker Gilkes.
Versions: Apple II+, IIe, IIc, Commodore-64.
Price: $29.95.
Limitations: Treble and bass clef, pitch letter names.
Special features: Scoring based on time; student spells words.
Electronic Courseware Systems (ECS)< 1210 Lancaster Drive, Champaign, Illinois 61821.

Music Theory: Level II
Versions: Apple II+, IIe.
Price: Operations booklet and three disks, $150.
Limitations: Eighteen lessons; includes intervals, major scales, key signatures, half and whole steps, triads, transposition, and ear training.
Special features: Comprehensive program; subject information frames.
Maestro Music, 2403 San Mateo NE, Suite P-6, Albuquerque, New Mexico 87110.

Music Theory
by Linda Borry Hausmann.
Version: 48K Apple.
Price: Diskette and 120-page support manual, $49.
Limitations: Eighteen programs in music fundamentals, terms and notation, rhythm, pitch, intervals, scales and chords, and student response to sound.
Special features: Difficulty levels and sequence of instruction explained in manual; backup disk.
MECC (Minnesota Educational Computing Corporation), 3490 Lexington Avenue North, St. Paul, Minnesota 55112.

Beginning Music I: Reading and Playing Melody
by Linda Borry Hausmann.
Versions: 48K Apple II, II+, IIe, 48K Atari 800, Atari 1200XL.
Price: $39.95. Keyboard overlays for each computer model, $9.95.
Limitations: Steps, skips, repeats, piano keyboard, and pitch letter names.
Special features: Animation attractive to children; student may play keyboard melodies.
Silver Burdett, 250 James Street, Morristown, New Jersey 07960.

Basic Musicianship: An Introduction to Music Fundamentals with Computer Assistance
by Raymond Alvin.
Versions: Apple II+, IIe.
Price: Text and diskette, $27.
Limitations: About forty computer exercises for assistance in fundamentals including basic notation, rhythm, pitch, major and minor scales, and harmonic structure. Sound limited to a single-voice output.
Special features: Textbook (180 pages) supplies examples and explanations while referring to relevant exercises on the computer disk.
Wadsworth Publishing, 10 Davis Drive, Belmont, California 94002.

Mr. Metro Gnome/Rhythm III
by Virgil Hicks.
Versions: 64K Apple II, II+, IIe, IIc.
Price: $69.
Limitations: Dotted notes, with eighth, quarter, half, and whole notes.
Special features: Reviews rhythm notation; uses animated character to demonstrate the playing of rhythms; computer responds to student tapping of space bar; written quiz available; student data maintenance.
Wenger Corporation, P.O. Box 448, Owatonna, Minnesota 55060-0448.

APPENDIX N

Letter of Summary

Date

Dear College

This past year while teaching beginning music, I implemented a computer aided learning program. The program was the MECC Study Guide. Concepts covered pertained to beginning music theory. They are listed below:

1) Naming staff lines and spaces for treble and bass clef.
2) Recognizing note and rest values.
3) Time signatures.
4) Flat, sharp, and natural signs.
5) Bar lines and measures.
6) Slurs and ties.
7) Dotted notes.
8) Counting and writing beats.
9) Accidentals.

The MECC Study Guide was used in an effort to increase students scores to seventieth percentile or above on a standardized theory test. The material covered in the MECC Study Guide was taken from the Master Theory I Workbook, published by Belwin Mills. Several significant things occurred:

1) All students within the target group increased their scores, on comparison of a pre and post-test, by 18% overall.

2) The students responded favorably to the use of the computer to learn musical terms.

3) It took less time to cover material presented with the use of the computer.

If you would like more information regarding this study, please contact me at (address and phone).

Sincerely,

Author

APPENDIX O

Software Evaluation

1. Title: MECC Study Guide

   Publisher: Minnesota Educational Computing Corporation

   Copyright Date: 1984

   Address: MECC Distribution
   3490 Lexington Avenue North
   St. Paul, Minnesota 55126

   Phone: (612) 481-3527

2. Type: Drill and practice.

3. User: Program can be used by all educational levels.

4. Cost: $59.00

   1. Lab Pac/6 Disks
      1 Manual $129.00

   2. Replacement Policy yes

      Cost for replacement none

   3. Hardware requirements: 64K

      Single drive yes Double drive optional

      Printer yes Color yes

      Special hardware required no

5. Does the program reach the target population for which it was designed? yes

6. Are the instructions well organized, useful, and easy to understand? yes

7. Does the material require extensive preparation or training on the user's part? no

8. Does the program provide for user self-pacing? yes

9. Is the content presented clearly? yes

10. Is the program organized and presented in a sequential manner and in appropriate developmental steps? yes

11. Can the user exit the program at any time? yes

12. Does the user need typing skills to use the program? yes

13. Can a student use the program without supervision? yes

14. Is a printout of student performance available, if desired? yes

15. Is the screen presentation pleasing to the eye? yes

16. Does the speed of presentation match individual learning styles? yes

17. Is the size of the print clear and well spaced? yes

18. Are the use of graphics, sound, and color appropriate? No sound or graphics, color only.

Documentation

1. Does the material require the purchase of accompanying printed material? no

2. Does the material provide direct instruction? yes

3. Is the material self-sufficient? yes

4. Is the size of the print clear and well placed? yes

5. Are the materials packaged so they can be easily and safely stored? yes

6. Is there a glossary of terminology provided? no

7. Does the documentation contain a section on trouble-shooting? yes

8. Can you use the program without constantly referring to documentation? yes

9. Is the documentation organized and presented in a sequential manner and in appropriate developmental steps? yes

10. Does the publisher provide for a preview of the courseware? N/A

Content

1. Is the courseware simple to use? yes

2. Is the courseware content accurate? yes

3. Are the courseware commands consistent? yes

4. Is the material appropriate for the age group? All questions and answers are inputed by the teacher using the program.

5. Does the material provide a variety of built-in reinforcements? All reinforcement statements are inputed by the teacher using the program.

6. Does the content require previous learning or experiential background? no

7. Is the material presented on a meaningful and appropriate language level? All material is inputed by the teacher using the program.

8. Is the coursework free of sex bias and stereotyping? yes

9. Does the program provide the user the opportunity for review? yes

10. Can the user modify the instructional material? yes

11. Is the software adaptable to different instructional strategies? yes

12. Is the software compatible with your classroom presentation? yes

13. Does the program contain a data management system (record keeping)? yes

14. Is the software student-proof? yes

15. Does the program allow the student adequate time to complete learning segments? yes

16. Is the program designed to alert the teacher to a student who is experiencing difficulty with the content? no

17. Is the content relevant to the instructional needs of the student? yes

18. Does the program work as publisher claims? yes

Evaluator's Recommendations:

The MECC Study Guide program can be used with any classroom material. The teacher programs

all questions, answers, and reinforcement statements. Questions can be presented in multiple choice, fill-in, matching or true and false formats. Student percentages are kept by the program and can be printed out. Questions may be printed as tests and quizzes with matching answer sheets. The entering of questions and answers is time consuming. But, once the questions are set, they can be manipulated easily. The program is user friendly and has adequate help screens available. The author would recommend this program to any teacher that presents weekly written quizzes and tests. Especially if the teacher uses the same material with several different classes. With the MECC Study Guide, it is possible to print several different versions of the same test, saving much preparation time.

Evaluation Summary

Performance	1	2	3	4	5
Ease of Use	1	2	3	4	5
Error Handling	1	2	3	4	5
Appropriateness	1	2	3	4	5
Documentation	1	2	3	4	5
Educational Value	1	2	3	4	5